A CHEMICAL BASE FOR ENGINE COOLANT / ANTIFREEZE WITH IMPROVED THERMAL STABILITY PROPERTIES

Abstract of the Invention

The present invention relates to a antifreeze/coolant composition for use in internal combustion engines which comprises: an anti freeze/coolant for diesel engines which comprises: 1,3 propanediol 97-98% by volume, 95 to 97 percent; nitrite, 0.50 to 1.5%; nitrate, 0.30 to 1.5%; borate, 0.25 to 1.25%; mercaptobenzothiazole, 0.25 to 1.0%; tolyltriazole, 0.30 to 1.1%; benzyltriazole, 0.00 to 1.0%; silicate, 0.25 to 3.0%; antifoam, 0.05 to 0.3%; silicate stabilizer, 0.10 to 1.9%; and dye, 0.00 to 0.02% In another embodiment, the present invention relates to a different antifreeze/coolant composition for use in internal combustion engines which comprises: an anti freeze/coolant for diesel engines which comprises: 1,3 propanediol 97-98% by volume, 95 to 97 percent; nitrite, 0.50 to 1.50%; nitrate, 0.30 to 1.50%; phosphate, 0.50 to 1.60%; mercaptobenzothiazole, 0.25 to 1.00%; tolyltriazole, 0.30 to 1.10%; benzyltriazole, 0.00 to 1.00%; silicate, 0.25 to 3.00%; molybdate, 0.50 to 1.30%; antifoam, 0.05 to 0.10%, and dye 0.00 to 0.02%. In another embodiment, PDO is 93 to 95% by weight, 2-ethylhexanoic acid is 4.0 to 6.0 %, sebacic acid is 0 to 1.5%, sodium tolyltriazole is 0.3 to 1.1%, antifoam is 0.05 to 0.3% and dye is 0 to 0.02%. In the fourth embodiment, PDO is 93 to 95% by weight, sodium nitrite is 0.5 to 1.5%, 2-ethylhexanoic acid is 4.0 to 6.0 %, sebacic acid is 0 to 1.5%, sodium tolyltriazole is 0.3 to 1.1%, antifoam is 0.05 to 0.3% and dye is 0 to 0.02%.